



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,888	07/09/2003	Ronan Dif	22130-00010-US1	8950
59554	7590	07/17/2006		
BAKER DONELSON BEARMAN CALDWELL & BERKOWITZ, PC 555 11TH STREET, NW 6TH FLOOR WASHINGTON, DC 20004			EXAMINER MORILLO, JANEL COMBS	
			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,888

Applicant(s)

DIF ET AL.

Examiner

Janelle Combs-Morillo

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1,3-~~12~~18, 21,23,24,26-28,30,31,33-37,39-44,46-51,53-60,62-70,76-81,83-92,94-119 is/are pending in the application:

4a) Of the above claim(s) 15-16,94-105,107-119 is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-14,17,18,21,23,24,26-28,30,31,33-37,39-44,46-51,53-60,62-70,72-81,83-92,106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-14, 17, 18, 21, 23, 24, 26-28, 30, 31, 33-37, 39-44, 46-51, 53-60, 62-70, 72-81, 83-92, 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rioja (US 6,562,154).

Rioja teaches a Al-Cu alloy which overlaps the presently claimed alloying ranges of Cu, Mg, Si, Fe, Mn, and Zr- see Rioja at claim 6. Rioja teaches that Zr forms dispersoids (column 5 lines 25, 32) with help control grain growth and recrystallization. Rioja teaches example 770-310 in Table 1 with: 3.7% Cu, 0% Mn, 1.36% Mg, 0.10% Zr, 0.06% Sc, 0.04% Fe, 0.03% Si, balance Al, which falls within the presently claimed alloying ranges (Cu, Mn, Mg, Zr, Fe, Si).

Concerning the amended range of scandium, the amount of Sc taught by Rioja of 0.06% (See column 7 Table 1), is a close approximation of the presently claimed maximum of 0.05% Sc.

Additionally, Rioja broadly teaches Sc can be added in ranges up to 1wt% (column 5 lines 23-25, claim 9), which broadly overlaps the presently claimed range. Rioja teaches said alloy is in the form of a rolled product typically 0.25 inch thick (column 8 line 5) and given a T3 type temper (col. 7 line 12).

Art Unit: 1742

Because Rioja teaches an example within the presently claimed alloying ranges and very close the instant range of Sc (within one hundredth of a percent), it is held that Rioja has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning claims 3, 4, 6, 17, 18, 21, 26-28, as stated above, Rioja teaches an overlapping alloy composition.

Concerning claims 5, 23, 24, Rioja teaches said alloy exhibits an unrecrystallized microstructure (column 8 line 16).

Concerning claims 14, 83-92, Rioja teaches said alloy is used for aircraft fuselages (abstract).

Concerning instant claims 7-12, 30, 31, 33-37, 39-44, 46-51, 53-60, 62-70, 106, which mention various properties such as TS, YS, elongation, fracture toughness, fatigue, corrosion resistance, because Rioja teaches an alloy within the presently claimed alloying ranges, then substantially the same properties are expected to be present. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*,

Art Unit: 1742

911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Because Rioja teaches substantially similar processing steps performed on an alloy that falls within the instant alloying ranges or overlaps the instant alloying ranges, it is held that the same properties would be expected to be present.

Concerning claim 23-24, Rioja teaches said alloy exhibits an unrecrystallized microstructure (column 8 line 16).

Concerning claims 13, 83-92, it would have been obvious to one of ordinary skill in the art to use said alloy as an aircraft wing member, substantially as presently claimed, because Rioja teaches said Al-Cu alloy has excellent strength and toughness properties and can be used in aerospace applications (abstract).

Concerning claims 72-81, as stated above, Rioja teaches said alloy is used for aircraft fuselages (abstract), and is used in a sheet form up to 0.35 inch thick (9mm). Rioja does not mention a plate product (wherein the specification describes a plate product as “typically of the order of 12 to 25 mm” [0029]). However, it would have been obvious to one of ordinary skill in the art to form the Al-Cu-Mg alloy taught by Rioja into plate stock on the order of 12 mm thick used for lower wing skins (which is only slightly thicker than the thickness taught by Rioja), because Rioja is drawn to a rolled product with high fracture toughness and high strength.

Response to Amendment/Arguments

3. In the response filed on May 1, 2006 applicant submitted claim amendments and various arguments traversing the rejections of record. The examiner agrees that no new matter has been added.

Art Unit: 1742

4. The examiner agrees that the claim objections have been overcome.

5. Applicant's argument that the present invention is allowable over the prior art of record because Rioja does not teach example within the instant Mn maximum or an overlapping range of alloying elements has not been found persuasive. As stated above, Rioja teaches examples 770-308 and 770-310 have 0% Mn, as well as a broad alloying ranges of Cu, Mn, Mg, etc that fall within the instant values (at cl. 6).

6. Applicant's argument that the present invention is allowable over the prior art of record because the instant invention's tightly controlled range of Sc achieves a strength and toughness combination not recognized by the prior art has not been found persuasive. Similarly, Applicant's argument that a maximum of 0.05% Sc is distinct and nonobvious in view of the broad overlap taught by Rioja of $\leq 1.0\%$ Sc combined with an example of 0.06% Sc has not been found persuasive. Though Rioja doesn't teach an example within the instant range of Sc, 0.06% Sc (ex. 770-310) taught by Rioja is a close approximation of 0.05% Sc (within 0.01%).

When an invention is defined by providing ranges for the amount of the various components, a *prima facie* case of obviousness arises when the ranges of a claimed composition overlap the ranges disclosed in the prior art. See *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003); *In re Geisler*, 116 F.3d 1465, 1469, 1469 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974). Where the "claimed ranges are completely encompassed by the prior art, the conclusion [that the claims are *prima facie* obvious] is even more compelling than in cases of mere overlap." *Peterson*, 315 F.3d at 1330. Even without complete overlap of the claimed range and the prior art range, a minor difference shows a *prima facie* case of obviousness. *Haynes Int'l v. Jessup Steel Co.*, 8 F.3d

Art Unit: 1742

1573, 1577 n.3 (Fed. Cir. 1993). A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) In the instant case, a prima facie case of obviousness has been established because 0.06% Sc taught by Rioja is expected to have substantially same properties as 0.05% Sc (as presently claimed), as applied to said Al-Cu-Mg alloy.

7. Applicant's argument that the present invention is allowable over the prior art of record because applicant has shown that the strength and toughness combination for an alloy of the invention is superior than alloys outside the instant has not been found persuasive. The closest prior art is held to be Rioja, in particular at example 770-310 (Table 1). Applicant has not shown unexpected results with respect to said example that meets the instant ranges of Cu, Mn, Mg, Zr, Fe, and Si; but is outside the instant range of Sc by one hundredth of a percent (and therefore is expected to have substantially identical properties).

Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In *re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ

Art Unit: 1742

594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997). Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JCM
July 7, 2006



GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1742